

**ECHO 24**

Proposal #10642b

For

**City of Columbus – Arlingate CFN**

Attn: Bill Rogers  
P.O. Box 2949  
Columbus, OH 43216-2949

For

Outside Plant Construction  
Arlingate – Columbus Fiber Net

May 20, 2011

# ECHO 24

Dear Bill,

Thank you for this opportunity to propose **Outside Plant Fiber Optic Construction** for the Arlingate to CFN connection. If you have any questions please do not hesitate to call me at 740-964-7081 ext. 2101.

Sincerely,



Anthony Gunter, RCDD  
President

## Proposed Services

**Outside Plant Construction:** Echo 24 shall install 192 strand single mode fiber optic cabling at Arlingate Lane per the following:

- Directional Bore 4" conduit from the existing handhole in front of the Arlingate Data Center east across Arlingate lane then south to the handhole at the northeast corner of the intersection of Trabue and Arlingate.
- Echo 24 will place a 192 strand Corning Single Mode outdoor cable from an existing rack in the data center through existing conduit, through the existing handhole, through the new conduit to the handhole at the northeast corner of the intersection of Trabue and Arlingate.
- From this handhole, the cable will continue west along Trabue to the CFN manhole at the intersection of Trabue and Westbelt Drive.
- At this manhole Echo 24 will splice the cable by cutting into an existing coiled 96 strand fiber optic cable (CFN) thereby creating a 96 strand path in and out of 1810 Arlingate Lane for the Columbus Fiber Net.
- Also from this manhole we will remove and preserve an existing 96 strand fiber through the same path back to Arlingate Lane.
  - We will continue to remove this same cable to its endpoint approximately 1,100' north to a handhole near Fishel's old building.
  - This cable will be coiled on a reel and delivered to the City of Columbus to be stored for future use.
- All outdoor splice closures and trays shall be manufactured by Preformed.
  - In an existing rack within the data center, all strands of these fiber optic cables shall be fusion spliced to factory polished pigtails in two each Corning "Closet Combo Connector and Splice housing" (part # PCH-04U) with duplex SC terminations (coupler panel part #s CCH-CP12-59) equipped with HDWD-LOCK-KITS inside the cabinet.
- All fiber optic strands shall be OTDR and Power Meter / Light Source tested upon completion.
- All fibers are to be OTDR tested with a launch cable of sufficient length to escape the OTDR's blind spot rendering the trace fully viewable from connector to connector. All Test results will be turned over to the City in an electronic format that will be viewable by the City without the use of special or additional equipment or software other than that delivered by the vendor
- Note that this proposal does not include any innerduct, Maxcell, or patch cords.

# ECHO 24

UTC Item Description	Manuf	Part #	Unit	Qty	Unit Price	Ext Cost
Heat shrink splice boot	Corning	2806031-01	50/pk	8	\$41.83	\$334.64
36 fiber splice trays	PLP	80805514	ea	6	\$49.83	\$298.98
Closet combo term / splice housing 144 SC w/ lock option	Corning	PCH-04U	ea	2	\$319.59	\$639.18
Registered Installer	Echo 24	Wreck Out	Hour	93	\$42.00	\$3,906.00
Registered Technician	Echo 24	Wreck Out	Hour	55	\$47.00	\$2,585.00
Registered Foreman	Echo 24	Wreck Out	Hour	24	\$53.00	\$1,272.00
Certified RCDD	Echo 24	Wreck Out	Hour	16	\$92.00	\$1,472.00
Registered Installer	Echo 24	Installation	Hour	480	\$42.00	\$20,160.00
Registered Technician	Echo 24	Installation	Hour	210	\$47.00	\$9,870.00
Registered Foreman	Echo 24	Installation	Hour	92	\$53.00	\$4,876.00
Certified RCDD	Echo 24	Installation	Hour	25	\$92.00	\$2,300.00
N/A UTC Item Description	Manuf	Part #	Unit	Qty	Unit Price	Ext Cost
192 Strand outdoor single mode fiber cable	Corning	192EU4-T4101A20	ea	4,312	\$ 2.13	\$9,184.56
Duplex SC connector panel with 12 ports	Corning	CCH-CP12-59	ea	8	\$60.96	\$487.68
Splice tray 48 single fiber	Corning	SCF-ST-077	ea	4	\$19.88	\$79.52
SC pigtails, color coded 12 pack w/ Corning glass	C Enterprises	XGREI40-6AW	12/pk	16	\$52.67	\$842.72
9.5" x 38" Coyote closure kit	PLP	8006765	ea	1	\$647.00	\$647.00
End plate for Coyote closure kit	PLP	80805739	ea	1	\$100.81	\$100.81
Miscellaneous				1	\$554.41	\$554.41

**Total This Order**

**\$59,610.50**

### Proposal Terms and Acceptance

**Acceptance:** As an authorized agent of **City of Columbus**, your signature hereby authorizes Echo 24, Inc. to proceed with the services outlined in this proposal number **10642b**. Further, by signing, you agree to all of the terms as outlined in the UTC contract and State Term Schedule.

Printed name \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

PO#: \_\_\_\_\_



**ECHO 24**

Proposal #10641e

For

**City of Columbus – Piedmont / Carolyn Complex**

Attn: Bill Rogers  
P.O. Box 2949  
Columbus, OH 43216-2949

For

Outside Plant Construction  
Piedmont / Carolyn Complex

May 25, 2011

## ECHO 24

Dear Bill,

Thank you for this opportunity to propose **Outside Plant Fiber Optic Construction** for the Piedmont / Carolyn Complex to CFN and CTSS connections. If you have any questions please do not hesitate to call me at 740-964-7081 ext. 2101.

Sincerely,



Anthony Gunter, RCDD  
President

### Proposed Services

**Outside Plant Construction:** Echo 24 shall install 288 and 192 strand single mode fiber optic cabling at the Piedmont – Carolyn Complex per the following:

- Directional Bore 4” conduit from a new CTSS manhole at the northbound I-71 exit ramp at the intersection of East North Broadway north to the CFN Manhole at Oakland Park approx. 900 feet away.
  - This route will cross under the intersection of the ramp and East North Broadway and continue through backyard easements to Oakland Park. One handhole shall be set for this bore.
- Directional Bore 4” conduit from the CFN manhole west, then north approx. 2000’ to the northwest corner of the Carolyn building.
  - This route will follow the backside of the new sound barrier wall being constructed and will pass the west side of the Piedmont building. This will include the installation of four new handholes.
- A new 4’ x 4’ x 4’ precast manhole with steel “Communications” lid will be placed in the grass approximately 30’ northwest of the Carolyn building.
- From this new manhole, a new 4” duct will be bored east under the parking lot approximately 215’ to another new manhole (4’x 4’ x 4’ precast with steel “Communications” lid) which shall be placed in the parking lot where the asphalt meets the concrete sidewalk.
- From this last manhole, we will place 4” duct into the building where we will penetrate into the server room just west of the stairs.
  - This will require excavation of a hole large enough to drill below grade. In order to do this, the concrete sidewalk must be cut and broken up. It is understood that we will not be required to restore the concrete and that a gravel backfill will be acceptable. Spoils shall be removed from the site.
- Echo 24 will install a 3x1 Maxcell fabric innerduct within all newly installed conduits to facilitate future cable installations.
- From this Server Room Echo 24 will install two fiber optic cables through the above installed conduit system.
- The first cable shall be a 192 strand OSP Corning Single Mode fiber optic cable which shall terminate in the CFN manhole at Oakland Park
  - In this manhole, Echo 24 will cut an existing 96 strand fiber optic cable and fusion splice the 192 strand to both cut ends of the 96 strand cable creating a path for 96 strands both in and out of the Carolyn Building for the CFN.
- The second cable shall be a 288 strand OSP Corning Single Mode fiber optic cable which shall terminate in the CTSS manhole at the I-71 off ramp.

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- At this manhole to create a path each way for 144 strands both in and out of the Carolyn Building for the CTSS fiber, Echo 24 will cut 144 strands of the existing 288 strand fiber optic cable, leaving the first 144 strands uncut and coiled. The uncut strands to be left intact will be in the Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose and Aqua buffer tubes. These uncut buffer tubes will be coiled and left undisturbed within the splice case. The 144 fiber strands that will be cut and spliced are in the Blue with Black trace, Orange with Black trace, Green with Black trace, Brown with Black trace, Slate with Black trace, White with Black trace, Red with Black trace, Black with Yellow trace, Yellow with Black trace, Violet with Black trace, Rose with Black trace and Aqua with Black trace buffer tubes.
- All splice closures and trays shall be manufactured by Preformed.
- At the Server Room in the Carolyn Building:
  - Echo 24 will furnish and install two ganged Siemon RS-07-S cable management relay racks with 6" vertical cable channels on the ends and a 12" vertical cable channel in the center. Cable channels will be equipped with VP-SPL fiber management spools.
  - All strands of these fiber optic cables shall be fusion spliced to factory polished pigtails in Corning "Angled Closet Connector and Closet Splice housings" (part # ACH-CHM-072) for terminations and CSH-05U-F for splice trays) with duplex SC terminations (coupler panel part #s CCH-CP12-3C) mounted to one of the above described Siemon relay racks
- All fiber optic strands shall be OTDR and Power Meter / Light Source tested upon completion.
- All fibers are to be OTDR tested with a launch cable of sufficient length to escape the OTDR's blind spot rendering the trace fully viewable from connector to connector. All Test results will be turned over to the City in an electronic format that will be viewable by the City without the use of special or additional equipment or software other than that delivered by the vendor
- Note that this proposal does not include any patch cords.
- It is understood that this project is subject to prevailing wage requirements and has been priced accordingly.

<i>UTC Item Description</i>	<i>Manuf</i>	<i>Part #</i>	<i>Unit</i>	<i>Qty</i>	<i>Unit Price</i>	<i>Ext Cost</i>
288 strand aerial duct cable	Corning	288EU4-T4101D20	ea	3,900	\$2.56	\$9,984.00
Heat shrink splice boot	Corning	2806031-01	50/Pkg	24	\$41.83	\$1,003.92
36 fiber splice trays	PLP	80805514	ea	18	\$49.83	\$896.94
Door lock kit for fiber housing	Corning	HDWD-LOCK-KIT	ea	5	\$16.50	\$82.50
Registered Installer	Echo 24	Installation	Hour	895	\$42.00	\$37,590.00
Registered Technician	Echo 24	Installation	Hour	735	\$47.00	\$34,545.00
Registered Foreman	Echo 24	Installation	Hour	275	\$53.00	\$14,575.00
Certified RCDD	Echo 24	Installation	Hour	130	\$92.00	\$11,960.00
<i>N/A UTC Item Description</i>	<i>Manuf</i>	<i>Part #</i>	<i>Unit</i>	<i>Qty</i>	<i>Unit Price</i>	<i>Ext Cost</i>
Relay rack for cable management	Siemon	RS-07-S	ea	2	\$421.15	\$842.30
Vertical patching channel, 6"	Siemon	VPC-6	ea	2	\$724.09	\$1,448.18

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Vertical patching channel, 12"	Siemon	VPC-12	ea	1	\$908.06	\$908.06
Horizontal wire mgr, rack mount	Siemon	RS-RWM-2	ea	6	\$50.65	\$303.90
Spool wire mgr, rack mount	Siemon	VP-SPL	5/pk	8	\$17.97	\$143.76
192 Strand outdoor single mode fiber cable	Corning	192EU4-T4101A20	feet	2,700	\$2.13	\$5,751.00
Maxcell innerduct 3x1	Maxcell	MXC3456BK1000	feet	3,900	\$3.20	\$12,480.00
Closet connector housing	Corning	CSH-05U-F	ea	1	\$172.73	\$172.73
Angled duplex SC connector panel with 12 ports	Corning	CCH-CP12-3C	ea	40	\$69.45	\$2,778.00
Angled connector housing	Corning	ACH-CMH-072	ea	4	\$498.57	\$1,994.28
Splice tray 48 single fiber	Corning	SCF-ST-077	ea	10	\$19.88	\$198.80
SC pigtails, color coded 12 pack w/ Corning glass	C Enterprises	XGREI40-6AW	Dozen	40	\$52.67	\$2,106.80
9.5" x 38" Coyote closure kit	PLP	8006765	ea	2	\$646.88	\$1,293.76
End plate for Coyote closure kit	PLP	80805739	ea	2	\$100.81	\$201.62
Directional boring	Precision Pipeline	City of Cols Compl#: 263290585	Subcontract labor	1	\$93,030.50	\$93,030.50
Miscellaneous				1	\$1,867.00	\$1,867.00

Total This Order

\$236,158.05

### Proposal Terms and Acceptance

**Acceptance:** As an authorized agent of **City of Columbus**, your signature hereby authorizes Echo 24, Inc. to proceed with the services outlined in this proposal number **10641e**. Further, by signing, you agree to all of the terms as outlined in the UTC contract.

Printed name \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

PO#: \_\_\_\_\_



# ECHO 24

Celebrating our 10<sup>th</sup> Year in Business



EDGE Certified

Proposal #10651

For

## **City of Columbus Fiber Repair**

Attn: Bill Rogers  
P.O. Box 2949  
Columbus, OH 43216-2949

For

Main Street – Fourth Street Fiber Repair

May 23, 2011

**ECHO 24**

Dear Bill,

Thank you for this opportunity to propose **Outside Plant Fiber Optic Construction** for the Main Street to Fourth Street Fiber Repair. If you have any questions please do not hesitate to call me at 740-964-7081 ext. 2101.

Sincerely,



Anthony Gunter, RCDD  
President

**Proposed Services**

**Outside Plant Construction:** A city owned 96 strand cable was damaged in underground duct near the intersection of Main Street and Fourth Street. Echo 24 shall replace and repair 96 strand single mode fiber optic cabling in the Main Street to Fourth Street area per the following:

- New 96 strand cable will be placed from the Traffic manhole at the intersection of Fourth Street and Mound Street to the Traffic Manhole just east of Fifth Street on Main Street in front of the Nationwide Children’s Hospital building.
- The old damaged cable will be wrecked with this installation.
- The new cable shall be spliced to the existing undamaged 96 strand cable in each manhole outlined above.
- All outdoor splice closures and trays shall be by Preformed.
- All fiber optic strands shall be OTDR and Power Meter / Light Source tested upon completion.
- All fibers are to be OTDR tested with a launch cable of sufficient length to escape the OTDR's blind spot rendering the trace fully viewable from connector to connector. All Test results will be turned over to the City in an electronic format that will be viewable by the City without the use of special or additional equipment or software other than that delivered by the vendor
- Note that this proposal does not include any patch cords, Maxcell, or innerduct.

*See next page for pricing.....*





**ECHO 24**

Proposal #10653a

For

**City of Columbus**  
Attn: William F. Rogers

For

**Health Department – CFN – Hammond Building**

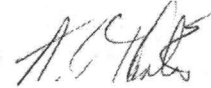
May 19, 2011

# ECHO 24

Dear Bill,

Thank you for this opportunity to propose our fiber optic construction services. If you have any questions please do not hesitate to call me at 740-964-7081 ext. 2101.

Sincerely,



Anthony J. Gunter, RCDD  
President

## Proposed Services

**Fiber Optic Construction:** Echo 24 shall install a 288 strand Corning Single Mode fiber optic cable from the Health Department at 640 Parsons Avenue to the Columbus FiberNet on Broad Street to the Hammond Building at 1111 E. Broad Street in accordance with the following:

- Beginning at 640 Parsons Avenue (Health Department) cable will be installed through existing conduit to exit the building in the west (front) side.
- In front of the building, we will tie into the existing conduit and extend to a new Hand Hole in the yard. From this Hand Hole we will directional bore 310' new 4" duct west under Parsons Avenue to an existing MELP Utility Pole.
- At this pole, the cable will rise and continue north on Parsons along an aerial route.
  - o From this point on this route follows existing City owned copper cable that we will wreck and install the new cable in its place. This wreckout / replacement will continue to the manhole on Ohio Avenue.
  - o Along this aerial route Echo 24 will install new 5/16" messenger cable and last the fiber optic cable to it.
  - o It is understood that the aerial route is on City owned MELP poles and as this is a cable upgrade no permits or make ready engineering is required.
- At the west intersection of Capital Street and Parsons Ave the cable falls to an underground path in the AT&T manhole / duct system then continues north to Broad Street.
- At Broad street, the underground path goes west past I-71 to Jefferson Avenue.
- At Jefferson Ave, we will saw-cut Broad Street to the nearby Columbus FiberNet (CFN) manhole and place a 4" duct between the manholes. Both manholes will be core drilled for this connection.
  - o The 288 strand cable from Health will splice in this CFM manhole
- From the CFN manhole, a new cable will be installed to the Hammond Building at 1111 E. Broad Street
  - o This cable will follow the same underground path back to the intersection of Parsons and Capital Street
- At Capital Street the path for this new cable will turn east on Capital Street still in AT&T duct.
- The path continues east on Capital to Hoffman and continues east *underneath* the American Red Cross building and also continues east *underneath* the Hammond Building to the final manhole on Ohio Avenue.

## **ECHO 24**

- From this manhole we will directional bore new 4" duct to the hand hole we placed on the east side of the Hammond building during a previous project back in 2009.
  - o This will require saw-cut of Ohio Ave and core drilling into the AT&T manhole.
  - o Echo 24 will replace the hand hole on the Hammond property with a larger one to accommodate the additional 4" duct.
- From this hand hole, the cable path will follow existing interior conduit all the way to the data center on the 3<sup>rd</sup> floor.
- For all existing underground pathways, it is assumed that ducts are clear and pullable. Should any existing ducts factored into this proposal require repair in order to complete this project, those repair costs will be billed to the City of Columbus above and beyond the costs in this proposal.
- Echo 24 understands that permits and inspection fees will be required in accessing the AT&T duct / manhole system. We have factored in a \$6,000 allowance to cover the anticipated inspection fees.
- For cable footage and future service purposes we have included 100' slack loops for every 1,500' of cable path.
- At the CFN manhole, Echo 24 will fusion splice 48 strands to an existing 96 strand CFN cable to both 288 cables going to the Health Dept. and to the Hammond Building. In addition, we will splice 48 strands from the Health Dept. to 48 strands of the Hammond Building creating a 48 strand path direct from Health to Hammond. The remaining 192 strands of each 288 strand cable shall be left dark in the Preformed splice case.
- At the Health Department, we will terminate 96 strands of the 288 cable using the previously installed (Property Room Project) cabinet and CSH-05U-F). 192 strands shall be left dark.
  - o Even though only 96 strands will be terminated at this time, Echo 24 will still furnish and install two new Corning "Closet Connector" (part # CCH-04U) with duplex SC terminations (coupler panel part #s CCH-CP12-59) inside the Cooper B-Line cabinet to reserve the rack space for future.
- At the Hammond Building, a new freestanding cabinet shall be installed to house the terminations pigtailed in Corning "Closet Connector and Closet Splice housings" (part # CCH-04U for terminations and CSH-05U-F for splice trays) with duplex SC terminations (coupler panel part #s CCH-CP12-59) inside the Cooper B-Line cabinet.
  - o Even though only 96 strands will be terminated at this time, Echo 24 will still furnish and install two new Corning "Closet Connector" (part # CCH-04U) with duplex SC terminations (coupler panel part #s CCH-CP12-59) inside the Cooper B-Line cabinet to reserve the rack space for future.
- All *terminated* fiber optic strands shall be OTDR and Power Meter / Light Source tested upon completion. All fibers are to be OTDR tested with a launch cable of sufficient length to escape the OTDR's blind spot rendering the trace fully viewable from connector to connector. All Test results will be turned over to the City in an electronic format that will be viewable by the City without the use of special or additional equipment or software other than that delivered by the vendor.
- Note: This proposal does NOT include any fiber optic patch cables, innerduct, or Maxcell.

*See next page for pricing.....*

# ECHO 24

<i>UTC Item Description</i>	<i>Manuf</i>	<i>Part #</i>	<i>Unit</i>	<i>Qty</i>	<i>Unit Price</i>	<i>Ext Cost</i>
288 strand aerial duct cable	Corning	288EU4-T4101D20	ea	10,075	\$2.56	\$25,792.00
Heat shrink splice boot	Corning	2806031-01	50/Pkg	18	\$41.83	\$752.94
36 fiber splice trays	PLP	80805514	ea	8	\$49.83	\$398.64
Door lock kit for fiber housing	Corning	HDWD-LOCK-KIT	ea	5	\$16.50	\$82.50
Registered Installer	Echo 24	Wreckout	Hour	39	\$42.00	\$1,638.00
Registered Technician	Echo 24	Wreckout	Hour	39	\$47.00	\$1,833.00
Registered Foreman	Echo 24	Wreckout	Hour	23	\$53.00	\$1,219.00
Certified RCDD	Echo 24	Wreckout	Hour	13	\$92.00	\$1,196.00
Registered Installer	Echo 24	Installation	Hour	868	\$42.00	\$36,456.00
Registered Technician	Echo 24	Installation	Hour	840	\$47.00	\$39,480.00
Registered Foreman	Echo 24	Installation	Hour	270	\$53.00	\$14,310.00
Certified RCDD	Echo 24	Installation	Hour	69	\$92.00	\$6,348.00
<i>N/A UTC Item Description</i>	<i>Manuf</i>	<i>Part #</i>	<i>Unit</i>	<i>Qty</i>	<i>Unit Price</i>	<i>Ext Cost</i>
Floor standing cabinet w/rails & fan	Great Lakes	GL720E-2936F	ea	1	\$2,169.47	\$2,169.47
Ground bar for cabinet	Great Lakes	CBB-60	ea	1	\$141.77	\$141.77
Heavy duty castors for cabinet	Great Lakes	7208-EHD	ea	1	\$91.66	\$91.66
5/16 steel strand	Bekaert Corp	5/16 EHS-A-7W-5000-R-BAT	feet	2,500	\$0.35	\$875.00
Closet connector housing	Corning	CSH-05U-F	ea	1	\$172.73	\$172.73
6 Duplex SC adapter panel with 12 ports	Corning	CCH-CP12-59	ea	48	\$60.97	\$2,926.56
Connector housing, 4U, holds 12 CCH panels	Corning	CCH-04U	ea	4	\$230.68	\$922.72
Splice tray 48 single fiber	Corning	SCF-ST-077	ea	12	\$19.88	\$238.56
SC pigtails, color coded 12 pack w/ Corning glass	C Enterprises	XGREI40-6AW	Dozen	16	\$52.67	\$842.72
9.5" x 38" Coyote closure kit	PLP	8006765	ea	1	\$646.88	\$646.88
End plate for Coyote closure kit	PLP	80805739	ea	1	\$100.81	\$100.81
Large Handhole w/lid	Quazite-Hubbell		ea	1	\$681.00	\$681.00
Pole Hardware			per pole	18	\$28.41	\$511.38

167 Cypress Street Suite A Reynoldsburg, OH 43068  
 (740) 964-7081 office (740) 964-7083 fax  
 April 14, 2011 \* Proposal 10653

*An Equal Opportunity Employer \* Drug Free Workplace*





